COMPANY: NORTHWEST NATURAL GAS

WELL: IW 14dH-23-65

FIELD: CALVIN CREEK-REICHHOLD POOL

COUNTY: COLUMBIA **STATE:** OREGON

COUNTY: COLUMBIA
Field: CALVIN CREEK-REICHHOLD P
Location: SHL: 976.5' NORTH & 1256.3' E
Well: IW 14dH-23-65
Company: NORTHWEST NATURAL GAS

Schlumberger

CEMENT BOND LOG
VARIABLE DENSITY LOG
GAMMA RAY / COLLAR LOG

LOCATION				
SHL: 976.5' NORTH & 1256.3' EAST FROM THE SW CORNER OF SEC 23 5" = 100'	Elev.	K.B. 923 ft G.L. 905 ft D.F. 921.5 ft		
Permanent Datum:	GROUND LEVEL	Elev.: 905 ft		
Log Measured From:	KELLY BUSHING	18.0 ft above Perm. Datum		
Drilling Measured From:	KELLY BUSHING			

API Serial No.	SECTION	TOWNSHIP	RANGE
36-009-00353	23	6N	5W

Logging Date	27-Oct-2001		
Run Number	TWO		
Depth Driller	2144 ft		
Schlumberger Depth	1580 ft		
Bottom Log Interval	1580 ft		
Top Log Interval	100 ft		
Casing Fluid Type	WATER BASED		
Salinity			
Density	8.9 lbm/gal		
Fluid Level			
BIT/CASING/TUBING STRING			
Bit Size	12.250 in		
From	0 ft		
To	2144 ft		
Casing/Tubing Size	8.625 in		
Weight	32 lbm/ft		
Grade			
From	0 ft		
To	2144 ft		
Maximum Recorded Temperatures			
Logger On Bottom Time	27-Oct-2001 15:12		
Unit Number Location	3152 SACRAMENTO		
Recorded By	Z AHMED		
Witnessed By	ED VADER		

	Run 1	Run 2	Run 3
PVT DATA			
Oil Density			
Water Salinity			
Gas Gravity			
Bo			
Bw			
1/Bg			
Bubble Point Pressure			
Bubble Point Temperature			
Solution GOR			
Maximum Deviation			
CEMENTING DATA			
Primary/Squeeze	Primary		
Casing String No			
Lead Cement Type			
Volume			
Density			
Water Loss			
Additives			
Tail Cement Type			
Volume			
Density			
Water Loss			
Additives			
Expected Cement Top			

Logging Date			
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Fluid Type			
Salinity			
Density			
Fluid Level			
BIT/CASING/TUBING STRING			
Bit Size			
From			
To			
Casing/Tubing Size			
Weight			
Grade			
From			
To			
Maximum Recorded Temperatures			
Logger On Bottom Time			
Unit Number Location			
Recorded By			
Witnessed By			

Run 4

DISCLAIMER
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES1	OTHER SERVICES2
OS1: USIT	OS1:
OS2: NEUTRON	OS2:
OS3: PEX/FMI/SONIC ON	OS3:
OS4: TLC	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1

CORRELATED TO LOG RAN BY SCHLUMBERGER ON 21-OCT-2001

REPORTED MAX HOLE DEVIATION: 73.8DEG AT 1776FT

3 GEMCO CENTRALIZERS USED ON TOOL STRING AS PER SKETCH

LOST WEIGHT AT 1580FT, LOGGED UP FROM THERE.

CORROSION & CBL BASE LINE LOGS WILL BE RUN

ON TLC

CREW:ROCKY BECK, BRAD TOMM

REMARKS: RUN NUMBER 2

RUN 1

SERVICE ORDER #:
PROGRAM VERSION: 9C2-303
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

RUN 2

SERVICE ORDER #:
PROGRAM VERSION:
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

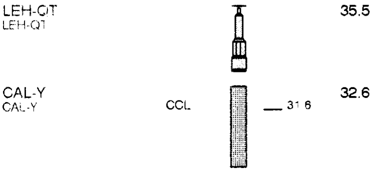
EQUIPMENT DESCRIPTION

RUN 1

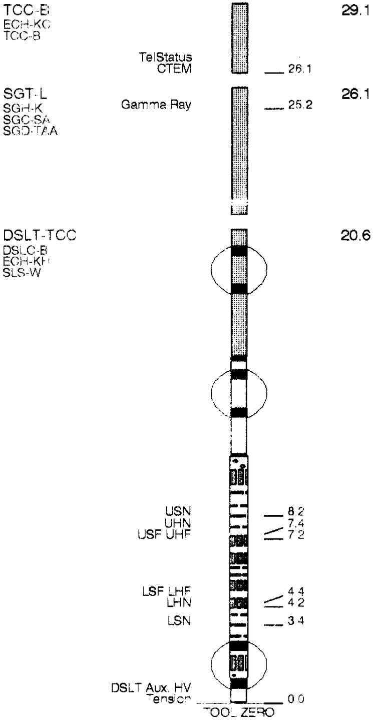
SURFACE EQUIPMENT

GSR-U/Y
WITM (CTS)-A

DOWNHOLE EQUIPMENT



RUN 2



MAXIMUM STRING DIAMETER 7.50 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Schlumberger

Main Pass 5IN=100FT

MAXIS 500 Field Log

Input DLIS Files

DEFAULT	DSLT_020LUP	FN:18	PRODUCER	27-Oct-2001 15:10	1580.0 FT	37.0 FT

Output DLIS Files

DEFAULT	DSLT_023PUP	FN:21	PRODUCER	27-Oct-2001 16:26	1578.0 FT	36.5 FT

OP System Version: 9C2-303

MCM

DSLT-TCC	OP92-KP1	SGT-L	9C2-303
TCC-B	9C2-303	CAL-Y	9C2-303

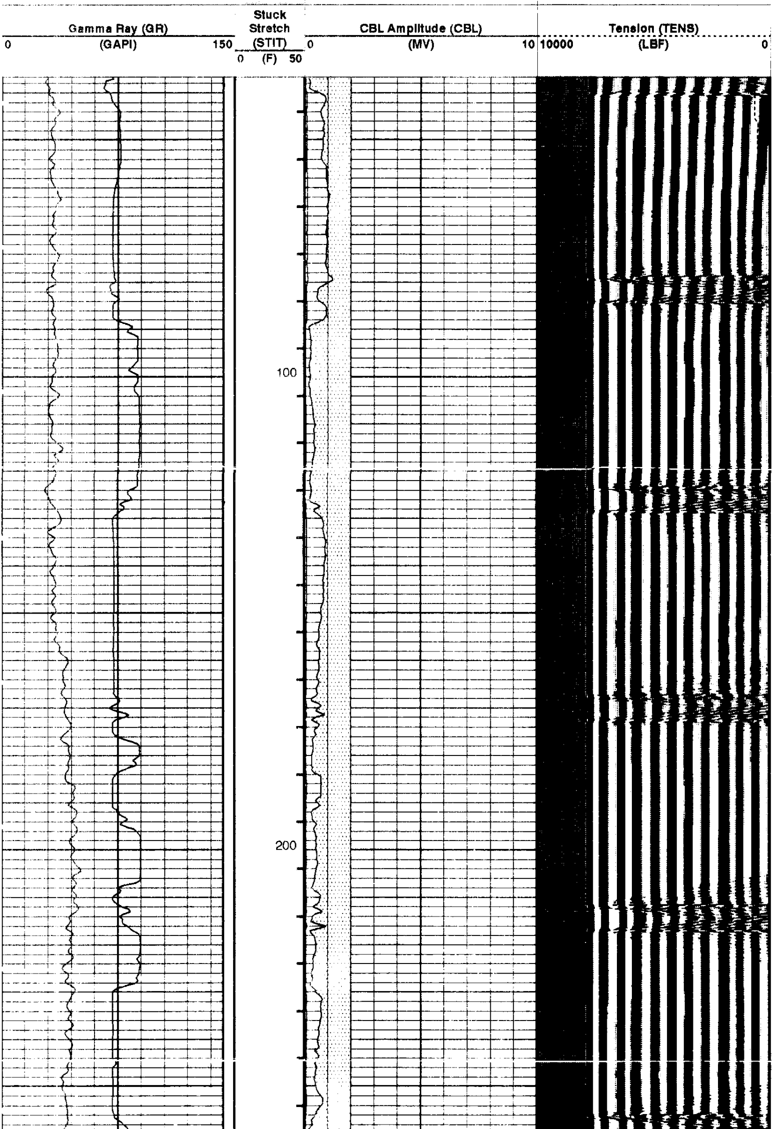
PIP SUMMARY

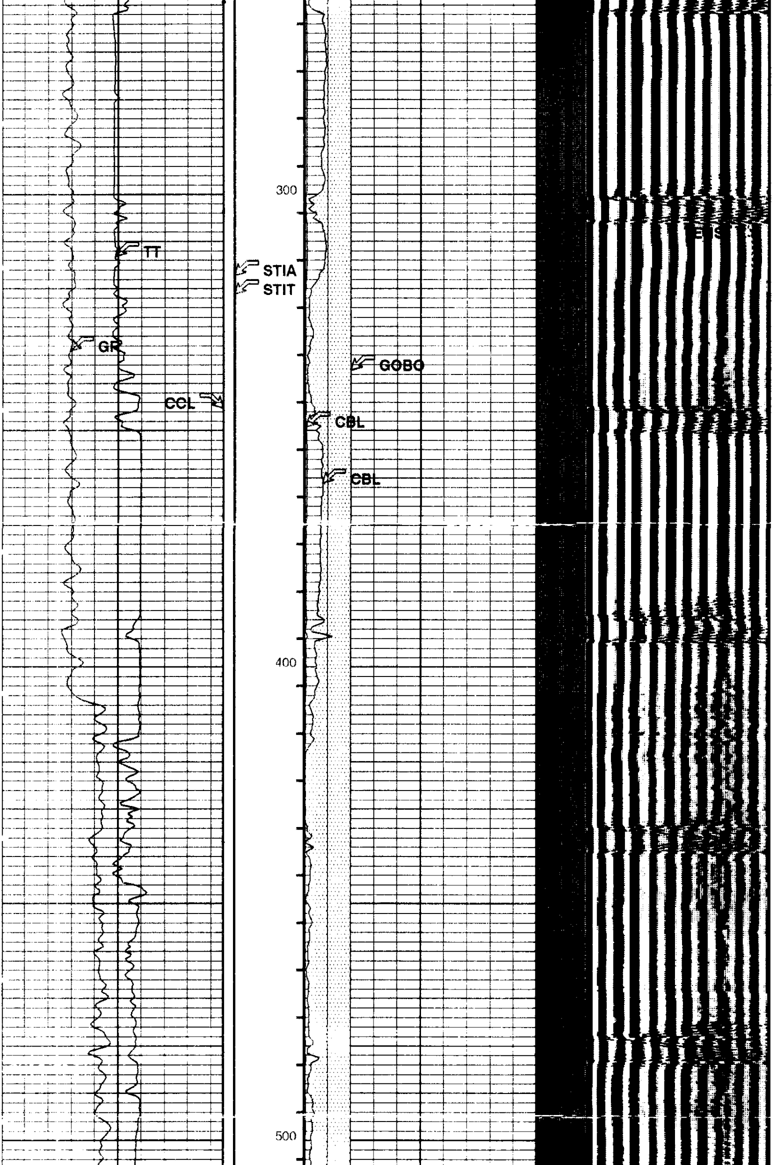
⊢ Casing Collars

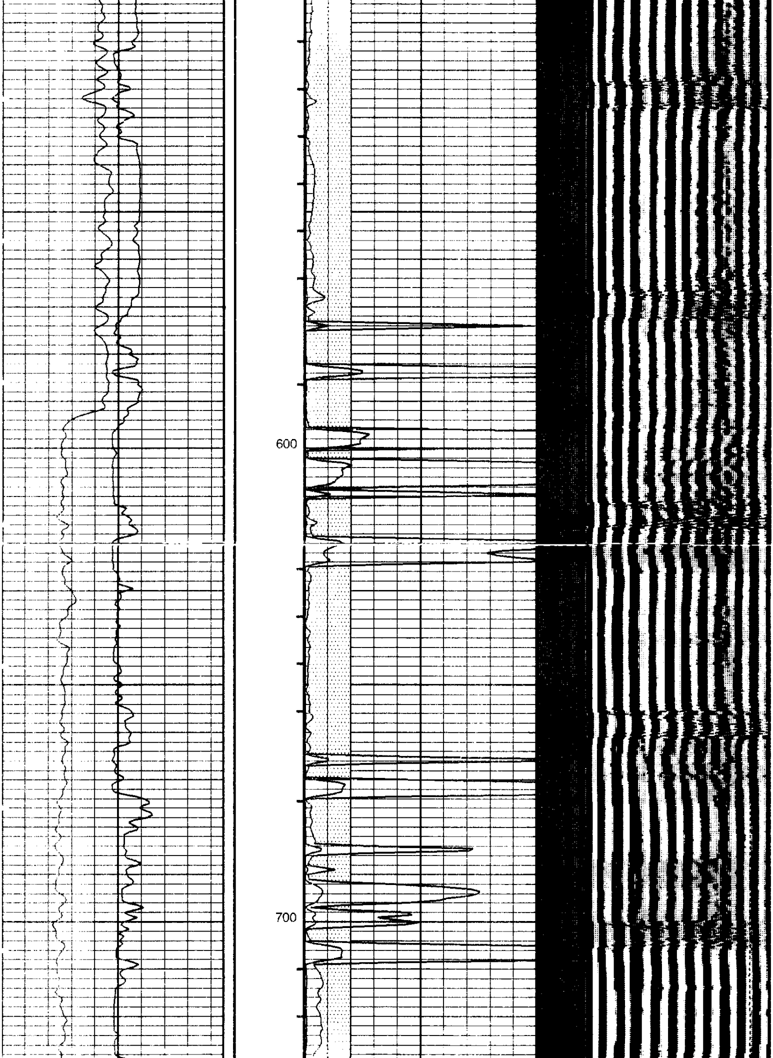
⊣ Cement Isolation Marker

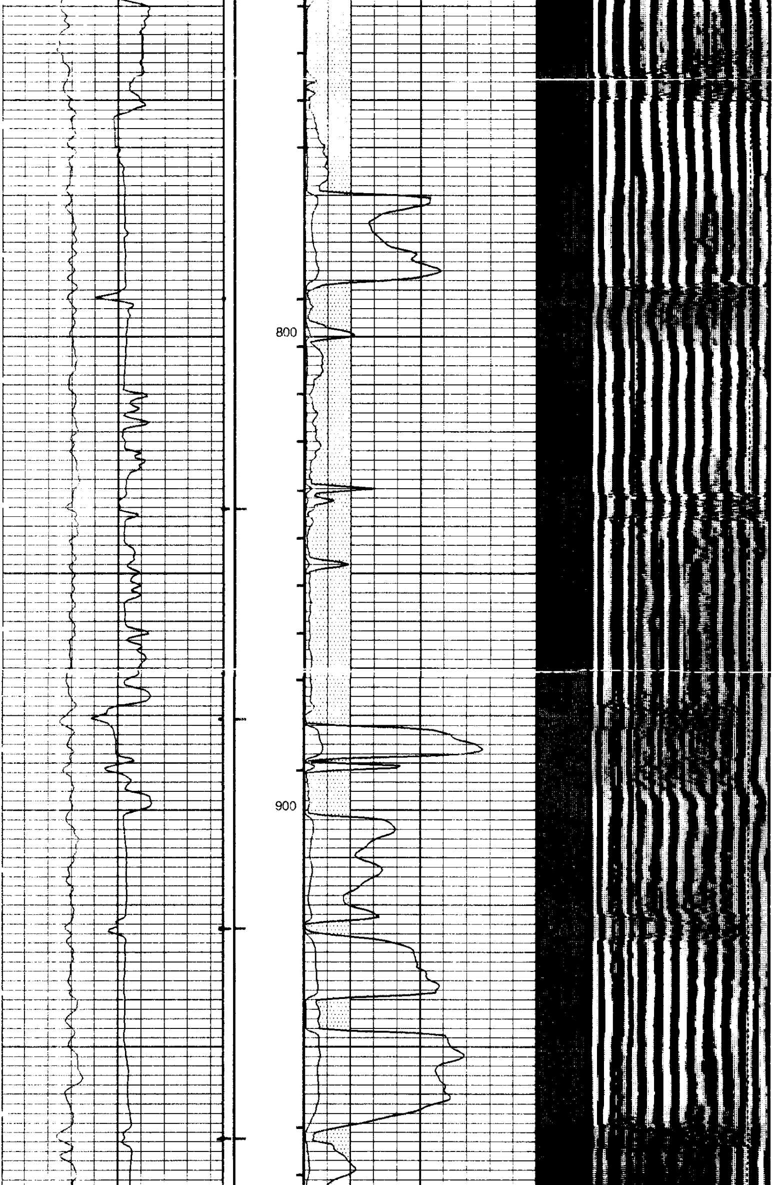
▶ Time Mark Every 60 S

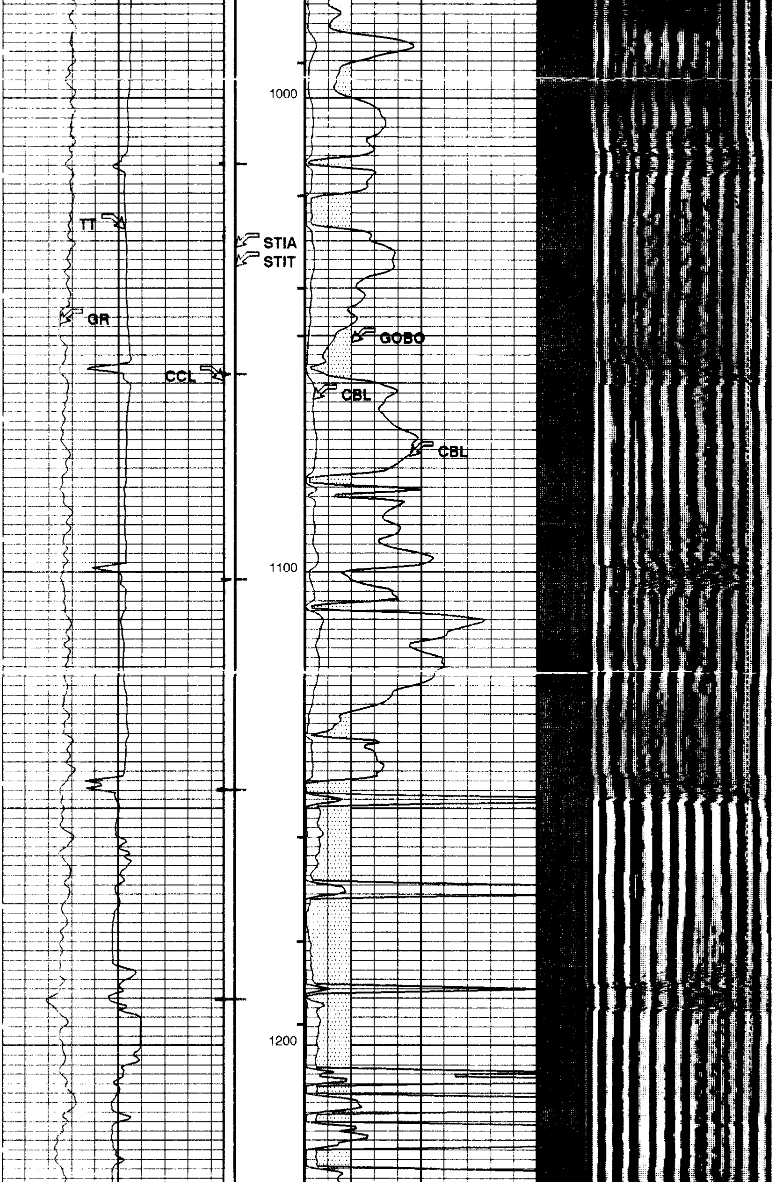
CasCollar From CCL to T1		GoodBond From ACBL to GOBO	
Casing Collar Locator (CCL) -19 (----) 1	Tool/Tot. Drag From D3T to STIA	Good Bond (GOBO) 0 (MV) 10	
Transit Time (TT) 400 (US) 200	Cable Drag From STIA to STIT	CBL Amplitude (CBL) 0 (MV) 100	Min Amplitude Max VDL VariableDensity (VDL) 200 (US) 1200

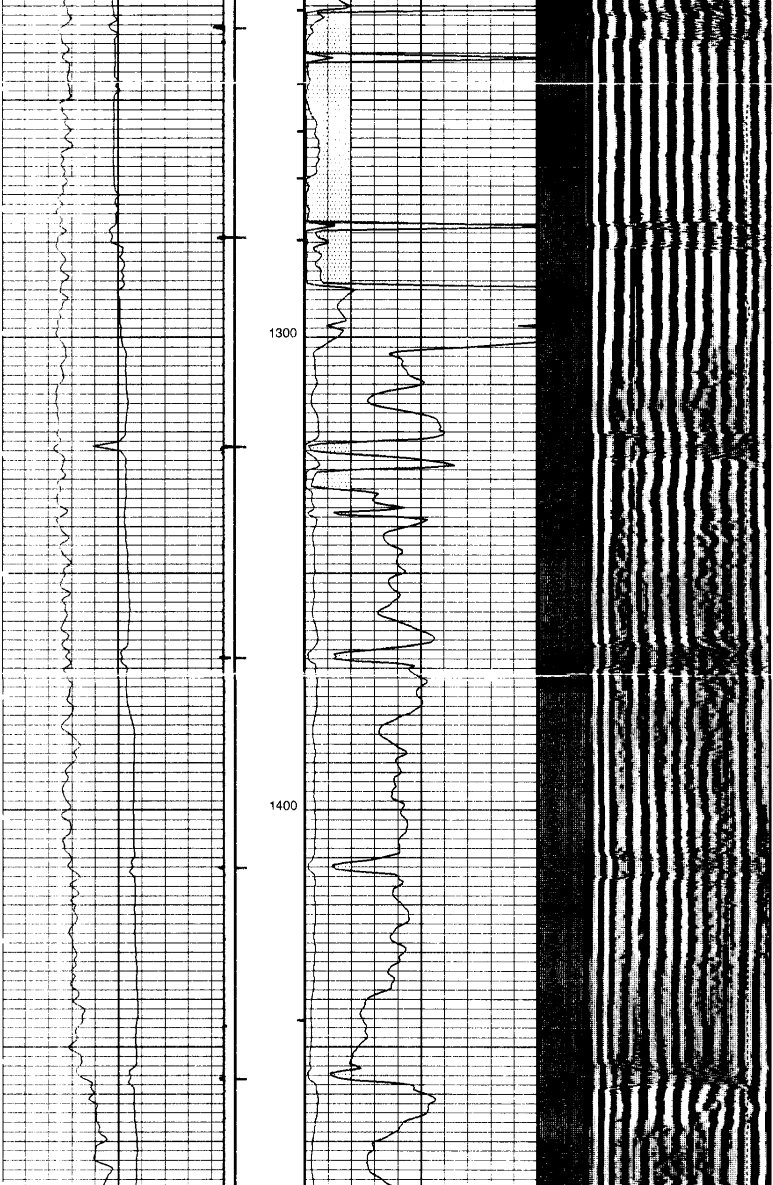


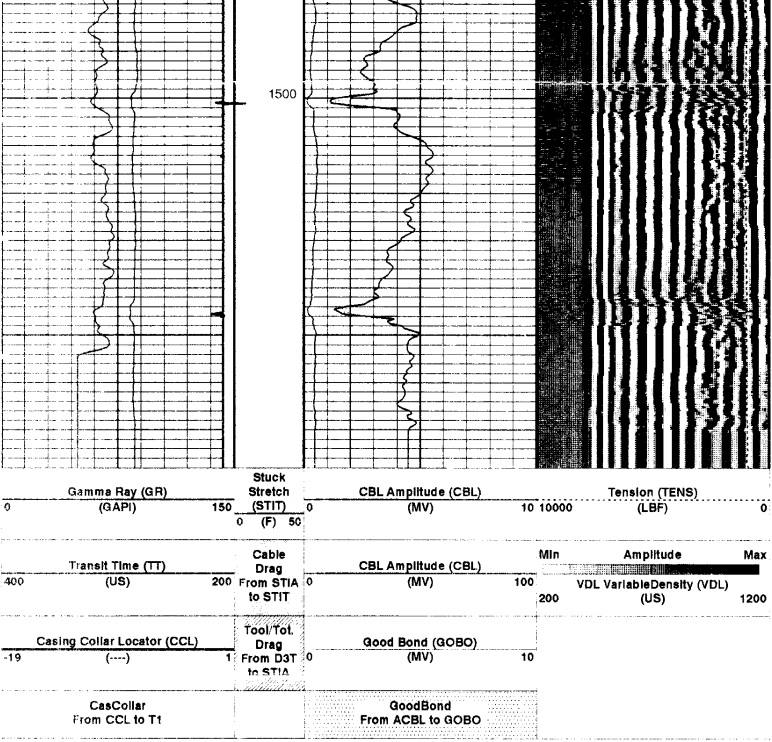












PIP SUMMARY

⊢ Casing Collars

⊣ Cement Isolation Marker

▣ Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	Telemetry Mode	DSLC_TCC	
	DSLT Firing Mode	CBL_W	
AMSG	Auxiliary Minimum Sliding Gate	172	US
BILI	Bond Index Level for Zone Isolation	0.8	
CBAF	CBL Adjustment Factor	1	
CBCF	CBL Correction Factor	1.6	
CBLG	CBL Gate Width	45	US
CCLD	CCL reset delay	12	IN
CCLT	CCL Detection Level	0.3	V
CSIZ	Current Casing Size	8.625	IN
CSTR	Compressive Strength of Cement	2000	PSIA
CWEI	Casing Weight	32.00	LB/F
DDEL	Digitizer Delay	0	US
DFAD_TYPE	DFAD type	DFAD	
DO	Depth Offset for Playback	-2.0	FT
DRCS	DSLT DLIS Recording Size	120	
DSIN	Digitizer Sample Interval	10	
DTFS	DSLC Telemetry Frame Size	236	
DWCO	Digitizer Word Count	120	
GAI	Manual Gain	40	

GOBO	Good Bond	2	MV
LBFR	Trigger for MAXIS First Reading Label	STI	
MAHTR	Manual High Threshold Reference	40	
MCI	Minimum Cemented Interval	10	FT
MGAI	Maximum Gain	5500	
MNHTR	Minimum High Threshold Reference	30	
MSA	Minimum Sonic Amplitude	1.86412	MV
NMSG	Near Minimum Sliding Gate	270	US
NMXG	Near Maximum Sliding Gate	750	US
PP	Playback Processing	NORMAL	
RATE	Firing Rate	R7	
SFAF	Sonic Formation Attenuation Factor	0	DB/F
SGCL	Sliding Gate Closing Delta-T	250	US/F
SGDT	Sliding Gate Delta-T	70	US/F
SGW	Sliding Gate Width	80	US
SLEV	Signal Level for AGC	5000	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth - Driller	2144.00	FT
TDL	Total Depth - Logger	1580.00	FT
VDLG	VDL Manual Gain	5	
WAGC	Waveform AGC Allow/Disallow	OFF	
WMOD	Waveform Firing Mode	FULL	

Format: CBL_VDL Vertical Scale: 5" per 100' Graphics File Created: 27-Oct-2001 16:26

OP System Version: 9C2-303

MCM

DSLT-TCC	OP92-KP1	SGT-L	9C2-303
TCC-B	9C2-303	CAL-Y	9C2-303

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Output DLIS Files

DEFAULT	DSLT_023PUP	FN:21	PRODUCER	27-Oct-2001 16:26

COMPANY:	**NORTHWEST NATURAL GAS**	BOTTOM LOG INTERVAL	1580 ft
		SCHLUMBERGER DEPTH	1580 ft
WELL:	**IW 14dH-23-65**	DEPTH DRILLER	2144 ft
FIELD:	**CALVIN CREEK-REICHHOLD POOL**	KELLY BUSHING	923 ft
COUNTY:	**COLUMBIA**	DRILL FLOOR	921.5 ft
STATE:	**OREGON**	GROUND LEVEL	905 ft

Schlumberger

CEMENT BOND LOG
VARIABLE DENSITY LOG
GAMMA RAY / COLLAR LOG